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DOOCH®



**SINGLE - STAGE
& ENDSUCTION PUMP**
CS/ES series



COMPANY INTRODUCTION

We are a leading unit in the field of providing pumping solutions for industries, buildings, urban areas, serving applications such as water supply and drainage, fire protection, and air conditioning.

Our products include multi-stage centrifugal pumps, multi-stage horizontal impeller pumps, end suction horizontal pumps, double suction pumps, vertical turbine pumps, wastewater pumps, and other specialized pumps, along with integrated control systems such as complete pressure boosting systems and integrated wastewater treatment stations. All are manufactured using advanced technology, ensuring optimal performance and meeting diverse needs across industries, construction, and water treatment.

Brand Meaning:

Our core values are built on five key principles:

D – Durable – Products are designed with exceptional durability, ensuring long-lasting and reliable operation.

O – Outstanding – We deliver outstanding quality and cutting-edge technology to meet the highest standards.

O – Operation – Smooth and stable performance, with vibration resistance, suitable for water management applications.

C – Creative – Constant innovation in design and solutions, flexibly addressing diverse pumping needs.

H – Harmony – Commitment to balance and harmony with the environment and feng shui, maximizing customer benefits.

With a team of experienced experts and a strict management system, we continuously improve to meet diverse customer needs. We aim to become a trusted partner, delivering sustainable and innovative pumping solutions.

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Brief introduction



● CS series horizontal close-couple pump

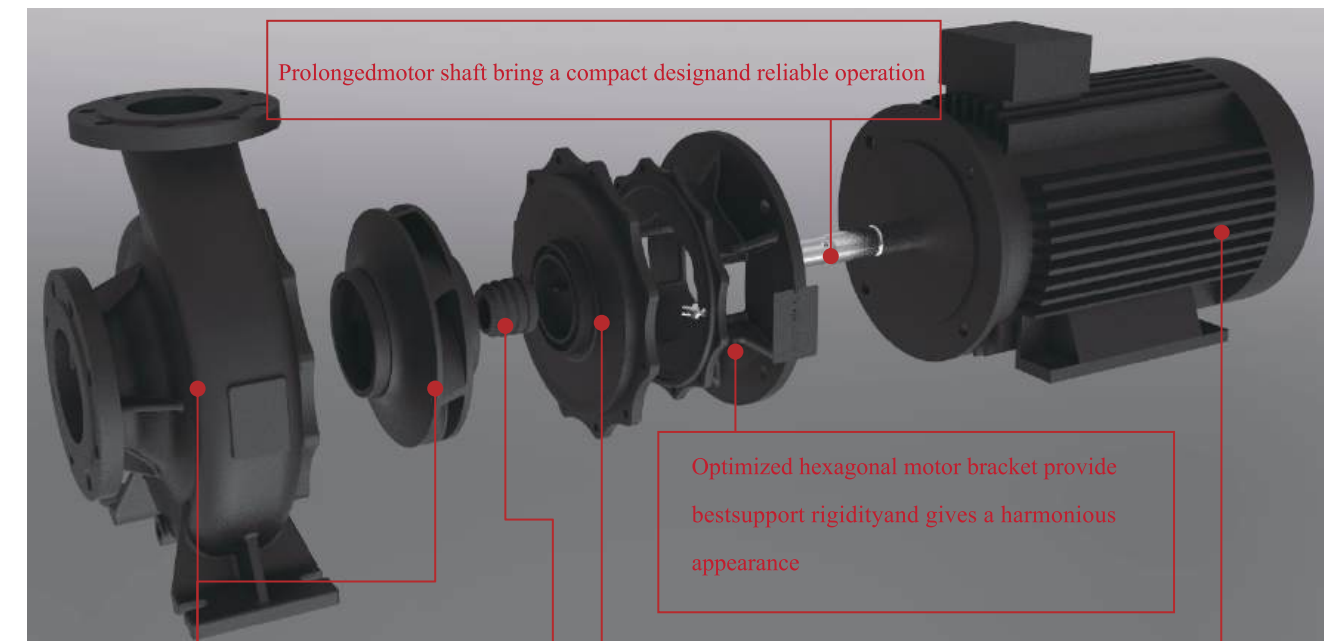


● ES series horizontal coupling pump

The CS/ES series end-suction pump was developed by DOOCH as a new generation product, benefit from platform thinking, the product own following advantage:

- Professional appearance of family design
- Hydraulic layout optimized to fit market trend, interchangeable with top brands
- By apply CFD in design process, hydraulic efficiency reach energy conservation level according to GB19762-2007
- Full 3d design, FEA is involved to ensure a optimized structure and strength
- Prolonged motor shaft provide the chance of reducing complexity and gain high reliability on CS series pump
- Different bearing bracket could be apply to same pump due to modularized design of ES series pump
- YX3(IE3) motor as standard offer, contribute to energy conservation and environment protection
- High component commonality with IL series gives a good serviceability and economy

Explosive view:



Prolonged motor shaft bring a compact design and reliable operation

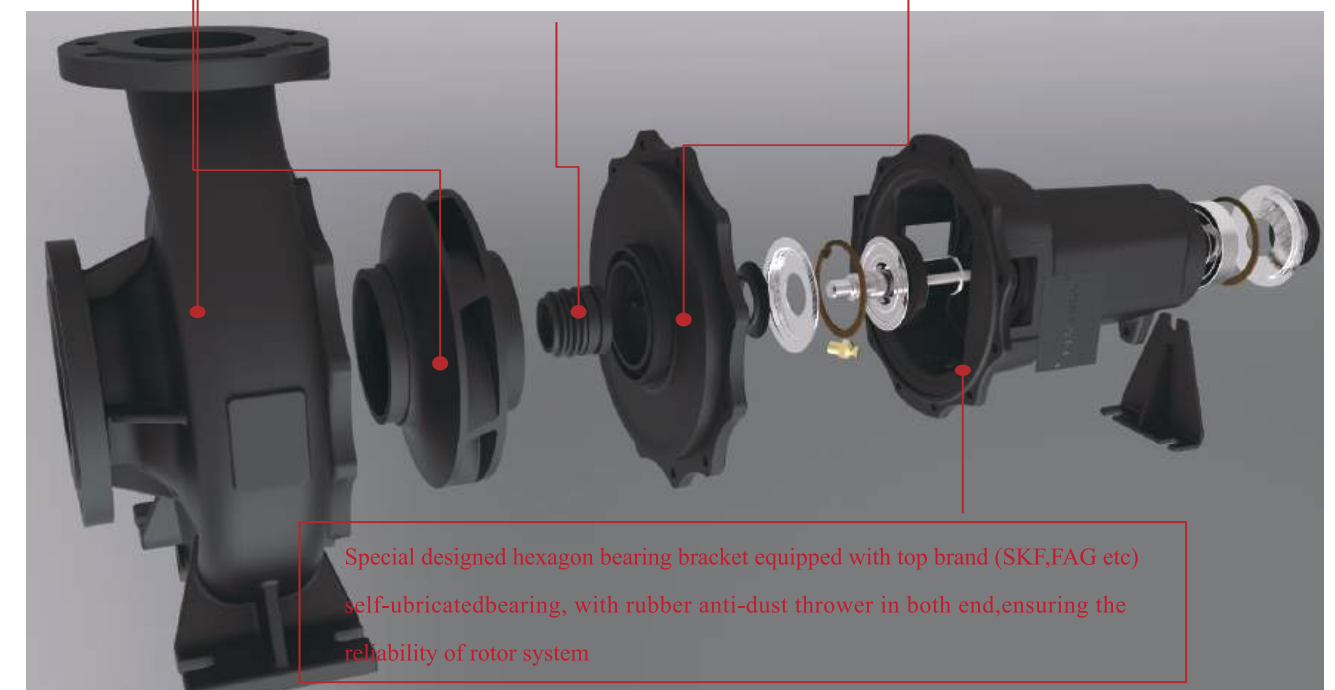
Optimized hexagonal motor bracket provide best support rigidity and gives a harmonious appearance

Impeller & Volute produced by lost foam process, resulting an excellent hydraulic performance

Various shaft seal solution fit to every customer application, the seal housing dimension were designed according to EN12759, which give a good interchangeability

Cover with standard Rp thread for Air-vent or shaft seal flushing pipe

IE3 motor with top brand bearing like SKF, FAG etc



Special designed hexagon bearing bracket equipped with top brand (SKF, FAG etc) self-lubricated bearing, with rubber anti-dust thrower in both end, ensuring the reliability of rotor system

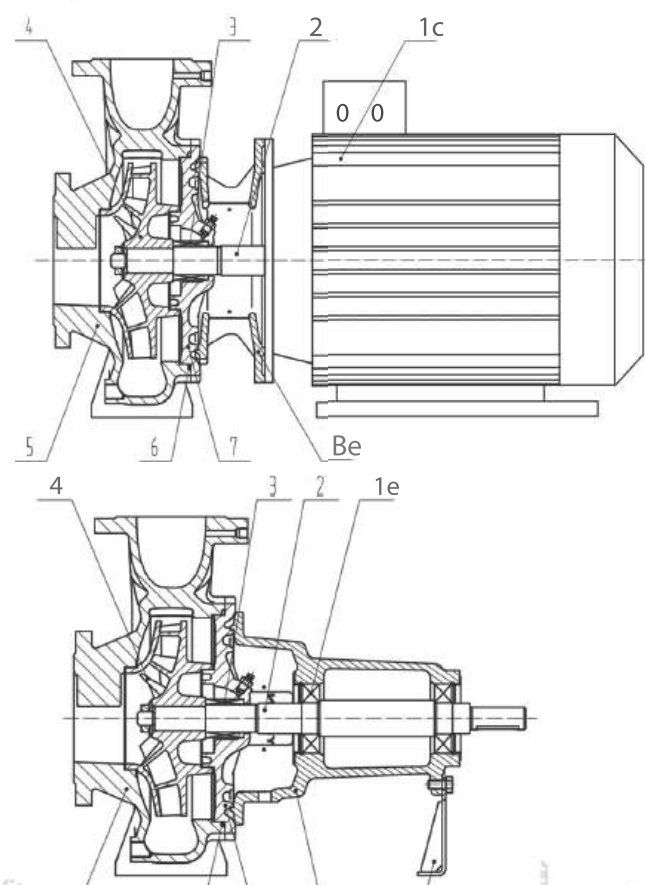
Application

- District heating and air conditioning system
- Cooling system
- Commercial building water supply
- Other light chemical process

Technical data:

	2 Pole	4 Pole
Flow	Max to 400m ³ /h Up to 400m ³ /h	Max to 1200m ³ /h Up to 1200m ³ /h
Head	Max to 150m Up to 150m	Max to 90m Up to 90m
Media temperature	-25~140°C (For details refer to shaft seal selecting sheet)	
Pressure rating	10bar for standard version, 16bar, 25bar available as customer required	
Connection	DN50-DN300, dimensions apply to EN 1092-2 and GB/T 17241.6	
Pumping media	Clean, low viscosity water-like liquid without particle or fibers inside	

Component Material:



POS	Description	Material	
		standard	option
1c	Motor	YE3 high efficiency motor	others
1e	Bearing	maintenance-free bearing	SKF, NSK
2	Shaft	45#	2Cr13
3	Shaft seal	Standard graphite silicon carbide + EPDM	refer to selection sheet
4	Impeller	HT200	QT450, 304
5	Housing	HT250	QT450, 304
6	O-ring	EPDM	FKM/Viton
7	Cover	HT250	V450, 304
Be	Motor bracket	HT250	QT450, 304
Be	Bearing bracket	HT200	
9e	Bracket foot	45#	

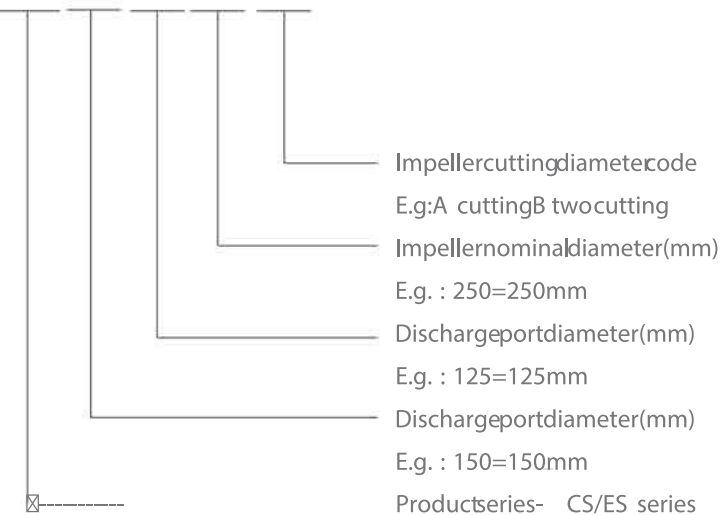
M/S selection:

Pumping media	Temperature	Rot. Ring mat.	Sta. Ring mat.	Secondary seal	Remark
Low temp. water	0~120°C	Carbon	SiC	EPDM	Standard
High temp. water	120~140°C	Carbon	we	EPDM	Optional
Coolant	-25~90°C	SiC	SiC	EPDM	Optional
Oil	~90°C	SiC	SiC	FKM/Viton	Optional

Model Definition:

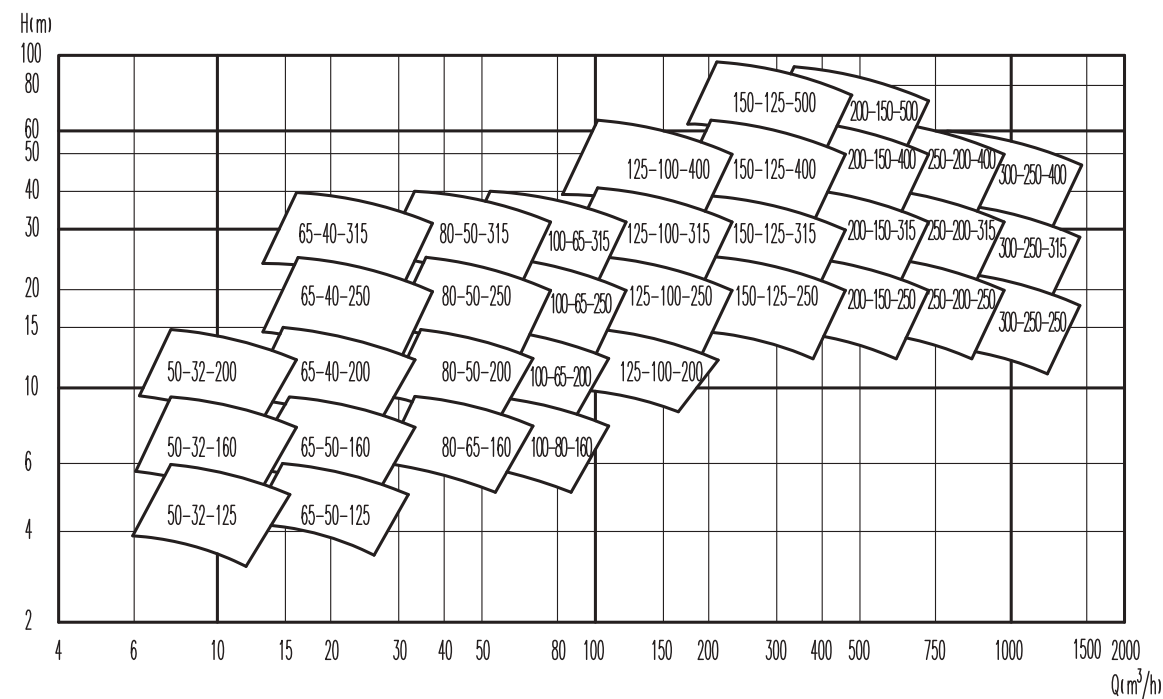
CS/ES SINGLE-STAGE END SUCTION PUMPS

CS/ES 150-125-250/A/B

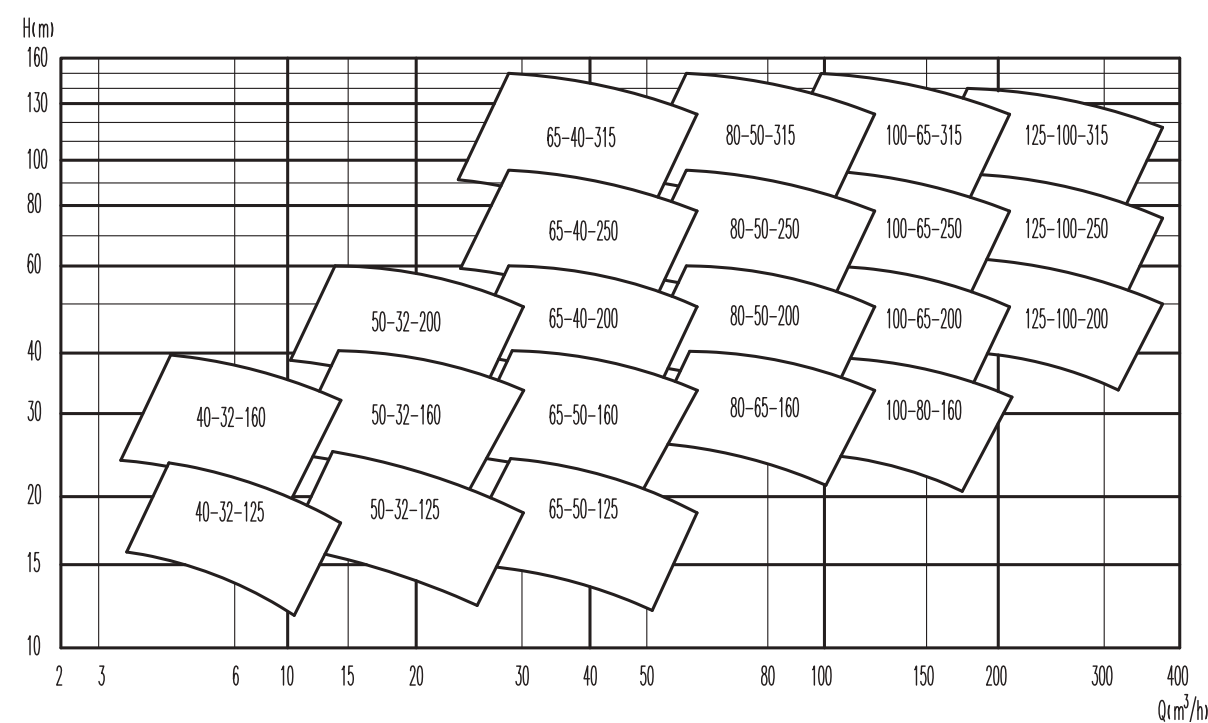


Hydraulic layout

50Hz 4-pole motor



50Hz 2-pole motor

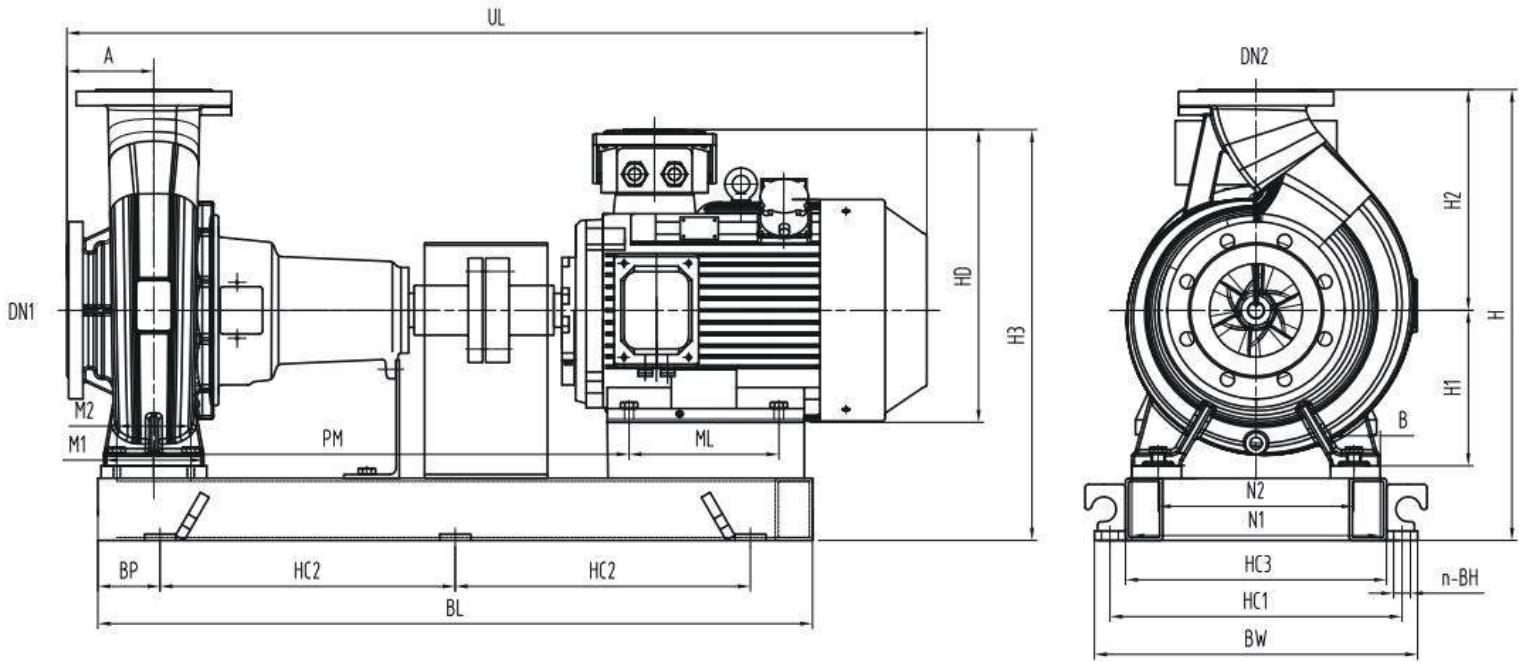


Curve condition

The following conditions are suitable for the performance curves shown:

1. Curve tolerance is conformity with ISO 9906, Annex A;
2. All curves are based on the measured value of magnet $3 \times 380V$, under the constant speed of 2900 rpm, 1450 rpm or 1480 rpm;
3. Measurements is done with $20^{\circ}C$, air-free water, without impurities, kinematic viscosity of $1mm^2/s$ (1cSt) ;
4. If the thickness and density of the pumped liquid is different from water, the motor power should be adjusted.
5. The NPSHr curve of the candidate pump type corresponds the biggest impeller diameter, the NPSHr value should be added a minimum safety margin of 0.5 m.

Horizontal coupling end suction pump



Model with 4-pole motor

Model	Motor	Inlet flange	Outlet flange	Pump Overall Dimensions (mm)												Pump set Overall Dimensions (mm)								
	kW	DN1	DN2	A	B	N1	N2	M1	M2	H1	H2	PM	ML	HD	UL	BP	HC1	HC2	HC3	BW	BL	n-BH	H	H3
50-32-200	0.75	50	32	80	50	240	190	100	70	160	195	486	100	250	765	100	305	480	260	340	680	4-15	435	410
	1.1	50	32									496	100	260	785	100	305	480	260	340	680	4-15	435	410
65-50-160	0.75	65	50	80	50	240	190	100	70	132	170	486	100	250	765	100	305	480	260	340	680	4-15	382	382
	1.1	65	50									496	100	260	785	100	305	480	260	340	680	4-15	382	382

Model	Motor	Inlet flange	Outlet flange	Pump Overall Dimensions (mm)												Pump set Overall Dimensions (mm)									
	kW	DN1	DN2	A	B	N1	N2	M1	M2	H1	H2	PM	ML	HD	UL	BP	HC1	HC2	HC3	BW	BL	n-BH	H	H3	
65-40-200	1.1	65	40	100	50	265	212	100	70	160	200	496	100	260	820	95	325	500	280	360	690	4-15	440	410	
	1.5	65	40									496	125	260	845	100	325	520	280	360	720	4-15	440	410	
	2.2	65	40									513	140	280	900	100	325	550	280	360	750	4-15	440	420	
65-40-250	2.2	65	40	100	50	320	250	125	95	180	225	537	140	280	900	100	375	550	330	410	750	4-15	485	440	
	3	65	40									537	140	280	900	100	375	550	330	410	750	4-15	485	440	
65-40-315	4	65	40	125	65	345	280	125	95	220	260	635	140	310	1035	100	405	680	360	440	880	4-15	560	498	
	5.5	65	40									674	140	330	1100	100	405	630	360	440	930	4-18	560	498	
80-65-160	1.1	80	65	100	50	265	212	100	70	160	180	496	100	260	820	95	325	500	280	360	690	4-15	420	410	
	1.5	80	65									496	125	260	845	100	325	520	280	360	720	4-15	420	410	
	2.2	80	65									513	140	280	900	100	325	550	280	360	750	4-15	420	420	
80-50-200	2.2	80	50	100	50	265	212	100	70	160	205	513	140	280	900	100	325	550	280	360	750	4-15	445	420	
	3	80	50									513	140	280	900	100	325	550	280	360	750	4-15	445	420	
80-50-250	4	80	50	125	65	320	250	125	95	180	230	635	140	310	1035	100	385	680	340	420	880	4-15	490	458	
	5.5	80	50									674	140	330	1100	100	385	720	340	420	920	4-18	490	458	
80-50-315	5.5	80	50	125	65	345	280	125	95	225	280	674	140	330	1100	100	405	720	360	440	920	4-18	585	503	
	7.5	80	50									674	178	330	1120	100	405	760	360	440	960	4-18	585	503	
	11	80	50									723	210	420	1218	100	405	420	360	440	1040	6-18	585	565	
100-80-160	2.2	100	80	100	65	280	212	125	95	160	215	513	140	280	900	100	345	560	300	380	760	4-15	455	420	
	3	100	80									513	140	280	900	100	345	560	300	380	760	4-15	455	420	
100-65-200	3	100	65	100	65	320	250	125	95	180	225	628	140	280	1015	100	385	680	340	420	880	4-15	485	440	
	4	100	65									635	140	310	1025	100	385	680	340	420	880	4-15	485	458	
	5.5	100	65									674	140	330	650	100	385	720	340	420	920	4-18	485	458	
100-65-250	5.5	100	65	100	65	360	280	160	120	200	250	674	140	330	1080	100	425	740	380	460	940	4-18	530	478	
	7.5	100	65									674	178	330	1123	100	425	790	380	460	990	4-18	530	478	